Amendments to the Specification

The following paragraphs will replace prior versions of paragraphs in the above-identified patent application.

Please replace paragraph [0010] with the following amended paragraph:

[0010] FIGs. 3A-C illustrates a process in accordance with an embodiment of the invention in a flow chart format.

Please amend paragraph [0020] with the following amended paragraph:

[0020] The flow charts in FIGs. 3A-C illustrates steps for a deceleration-fuel-cut-off (DFCO) method in accordance with an embodiment of the invention. The method can be understood by referring to FIGs. 3A-C and with continued reference to FIGS. 1 and 2. The control unit on a parallel hybrid electric vehicle with a CVT begins using the DFCO control method (step 100) if the control unit senses that the ICE throttle is closed and the vehicle is moving at a speed greater than a predetermined speed V_A (for example, twenty-five mph) (step 98). This is illustrated on FIG. 2 by vertical line 64. V_A is the vehicle speed at which fuel cut-off is triggered due to accelerator-pedal release. If the brake is applied, this critical vehicle speed V_A is lowered to a value V_{AB} (for example twelve mph). After some time period T_A (for example, one second), if the throttle does not re-open (the accelerator pedal is not depressed), the control unit sends a communicatory signal causing the CVT to change gears to a higher gear (step 102). As line 49 illustrates in FIG. 2, closing the throttle and shifting to a higher gear causes a lowering of the ICE RPM. Shifting to the higher gear is done to reduce engine braking so the vehicle can coast to conserve fuel. After a time increment T_B (for example, 0.2 seconds) after throttle closing, the control unit sends a further communicatory signal to cause the ICE to stop fueling, cylinder by cylinder, while ramping the spark to each cylinder after it has fired (step 104). The vehicle is now within time period 52 illustrated in portion 42 of FIG. 2. At this time, the control unit sends communicatory signals causing the CVT to again change gears to a higher gear, and causing the MG to function as a generator and to ramp in low-torque regenerative braking (step 106). When the MG functions as a generator, it increases the load on the drivetrain and thus increases drivetrain drag. Thus, having the MG function as a generator

effectively slows the vehicle. By changing to a higher gear, the ICE RPM is lowered and engine braking is reduced further, but ramping in the regenerative braking maintains a consistent vehicle coasting feel. As line 47 illustrates in FIG. 2, the vehicle speed is held substantially constant after the throttle is released (but before the brakes are applied), but ICE RPM has decreased and more torque has been diverted to the MG to allow for regenerative braking. How much regenerative braking the MG does is dependent on the state of charge (SOC) of battery pack 16. In accordance with an embodiment of the invention, the control unit continuously monitors the battery pack SOC and determines the appropriate CVT gear ratio based, in part, on the SOC. If the control unit detects that the battery pack SOC is high, meaning that it is fully or nearly fully charged (step 108), the control unit causes the CVT to change to a less-high gear than if the battery pack is not fully or nearly fully charged. If the SOC is high, the control unit also causes the MG to ramp in less regenerative braking (step 110). If the battery pack's SOC is low, meaning that the battery pack needs recharging (step 112), the control unit causes the CVT to change gears to a higher gear, thereby reducing engine braking, and causes the MG to ramp in more regenerative braking (step 114).

Please amend paragraph [0031] with the following amended paragraph:

[0031] In any situation in which the vehicle is stopped, and the ICE is stalled at zero RPM, the control unit exits the DFCO control mode (step 195). Before the ICE reaches zero RPM, however, at a predetermined RPM, RPM_P, (for example, 400 RPM), the control unit causes electric transmission pump 29 to be activated (179). The electric transmission pump increases the CVT line pressure as is illustrated by line 61 in FIG. 2 during the time period just following the time indicated by vertical line 71 or 79, depending on the deceleration rate. The line pressure is increased to at least a minimum pressure P_{MIN} (for example, 70 psi), as the ICE reaches zero RPM~~ (step 178)~~. The electric transmission pump is turned on prior to ICE stall in order to insure a smooth acceleration without clutch shudder following the vehicle stop. At stop, the control unit monitors the CVT line pressure and uses the electric transmission pump to maintain the line pressure at least equal to P_{MIN}. P_{MIN} is determined by the control unit based on transmission conditions at idle.